

# INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/GB 99/02361

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 A61K31/00 A61K31/425 A61K31/44		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 99 59586 A (WANG PING H ;UNIV CALIFORNIA (US)) 25 November 1999 (1999-11-25) abstract page 1, line 1 -page 4, line 17; claims 1,6-9,11,13-16; examples ---	1-7
E	US 5 968 960 A (SCHWARTZ GREGORY G) 19 October 1999 (1999-10-19) the whole document ---	1-7
E	WO 99 43326 A (UNIV PENNSYLVANIA ;LIANG BRUCE T (US); BIRNBAUM MORRIS (US); HARDE) 2 September 1999 (1999-09-02) abstract page 7, line 13 -page 8, line 28 page 13, line 4 - line 13 claims ---	1-3,7
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <span style="margin-left: 100px;"><input checked="" type="checkbox"/> Patent family members are listed in annex.</span>		
<b>* Special categories of cited documents :</b> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&amp;" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search  <div style="text-align: center;">7 December 1999</div>		Date of mailing of the international search report  <div style="text-align: center;">21/12/1999</div>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  <div style="text-align: center;">Hoff, P</div>

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 99 25346 A (MOMOSE YU ;TARUI NAOKI (JP); MATSUI JUNJI (JP); NARUO KEN ICHI (JP) 27 May 1999 (1999-05-27) abstract page 17, line 3 -page 18, line 11 page 19, line 32 -page 20, line 16 page 23, line 8 - line 24 page 27, line 1 - line 7; claims 1,9-19 ---	1-7
P,X	LEE, WEN LIENG (1) ET AL: "Troglitazone acutely activates multiple signaling pathways and exhibits anti- apoptotic effects in cardiomyocytes." DIABETES, (1999) VOL. 48, NO. SUPPL. 1, PP. A331. MEETING INFO.: 59TH SCIENTIFIC SESSIONS OF THE AMERICAN DIABETES ASSOCIATION SAN DIEGO, CALIFORNIA, USA JUNE 19-22, 1999 AMERICAN DIABETES ASSOCIATION. , XP000856585 abstract ---	1,2,4,5,7
X	SHIMABUKURO M ET AL: "Cardioprotective effects of troglitazone in streptozotocin-induced diabetic rats." METABOLISM: CLINICAL AND EXPERIMENTAL, (1996 SEP) 45 (9) 1168-73. , XP000856580 cited in the application the whole document ---	1-4,6,7
X	STERNON J: "'Post myocardial infarction management!. La prise en charge du post-infarctus." REVUE MEDICALE DE BRUXELLES, (1997 SEP) 18 (4) 286-92. REF: 28 , XP000856587 abstract ---	1-4,6,7
X	WO 98 08531 A (LILLY CO ELI) 5 March 1998 (1998-03-05) abstract page 3, line 19 - line 37 page 19, line 8 - line 29; claims 1,12,13 ---	1-3,7
X	WO 97 46238 A (GLAXO GROUP LTD ;COMINACINI LUCIANO (IT)) 11 December 1997 (1997-12-11) the whole document ---	1-4,6,7

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US YOKOYAMA, TOMIHISA ET AL: "Glutathione reductase activity potentiator containing troglitazone" retrieved from STN Database accession no. 128:248588 XP002124804 abstract &amp; WO 98 10760 A (SANKYO CO., LTD., JAPAN;YOKOYAMA, TOMIHISA; FUJIWARA, TOSHIHIKO; HORIK) 19 March 1998 (1998-03-19)</p>	1-4,6,7
X	<p>DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US HORIKOSHI, HIROYOSHI ET AL: "Thiazolidines for treatment of complications of diabetes" retrieved from STN Database accession no. 119:262523 XP002124805 abstract &amp; JP 05 202042 A (SANKYO CO, JAPAN) 10 August 1993 (1993-08-10)</p>	1-4,6,7
X	<p>SHIMABUKURO M ET AL: "Fatty Acid-Induced Beta Cell Apoptosis: A Link Between Obesity and Diabetes" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA,US,NATIONAL ACADEMY OF SCIENCE. WASHINGTON, vol. 95, no. 95, page 2498-2502-2502 XP002099922 ISSN: 0027-8424 abstract page 2498, right-hand column, paragraph 2 page 2501, left-hand column, paragraph 1; figure 4</p>	1,2,4,6, 7
A	<p>BAHR M ET AL: "Acute and chronic effects of troglitazone (CS-045) on isolated rat ventricular cardiomyocytes." DIABETOLOGIA, (1996 JUL) 39 (7) 766-74. , XP000856911 the whole document</p>	1-7
X	<p>EP 0 796 618 A (SANKYO CO) 24 September 1997 (1997-09-24)</p>	7
A	<p>the whole document</p>	1-6
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94 05659 A (SMITHKLINE BEECHAM PLC ;POOL COLIN RIPLEY (GB); ROMAN ROBIN SHERWO) 17 March 1994 (1994-03-17) cited in the application the whole document ----	7
X	EP 0 306 228 A (BEECHAM GROUP PLC) 8 March 1989 (1989-03-08) cited in the application the whole document -----	7

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## Box I Observations where certain claims were found unsearchable (Continuation of item 1. of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-6  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 1-6  
are directed to a method of treatment of the human/animal  
body, the search has been carried out and based on the alleged  
effects of the compound/composition.
2. ☒ Claims Nos.: -  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such  
an extent that no meaningful International Search can be carried out, specifically:  
See FURTHER INFORMATION SHEET PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all  
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment  
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is  
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.2

Present claims 1-3,7 relate to a compound defined by reference to a desirable characteristic or property, namely "glucose uptake enhancer". The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compound by its pharmacological profile. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Furthermore, present claim 4 relates to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds. In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds structurally identified in claims 5 and 6 and for the general idea underlying the application. Moreover, claims 1-2 relate to the treatment of a disease which actually is not well defined. The use of the definition "reducing or preventing apoptosis" in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the search has been restricted to the diseases mentioned in claim 3 and to the general idea underlying the application.

Claims searched incompletely: 1-7

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9959586	A	25-11-1999	NONE	
US 5968960	A	19-10-1999	NONE	
WO 9943326	A	02-09-1999	NONE	
WO 9925346	A	27-05-1999	AU 1172999 A JP 11263726 A	07-06-1999 28-09-1999
WO 9808531	A	05-03-1998	AU 4163897 A CZ 9900652 A NO 990916 A PL 331986 A ZA 9707756 A	19-03-1998 13-10-1999 29-04-1999 16-08-1999 10-09-1998
WO 9746238	A	11-12-1997	AU 3038997 A EP 0914121 A	05-01-1998 12-05-1999
WO 9810760	A	19-03-1998	AU 4219597 A CZ 9900741 A EP 0958818 A JP 10139665 A NO 991205 A	02-04-1998 14-07-1999 24-11-1999 26-05-1998 11-05-1999
JP 5202042	A	10-08-1993	NONE	
EP 0796618	A	24-09-1997	AU 708315 B AU 1628597 A CA 2200126 A CN 1170575 A CZ 9700790 A HU 9700598 A JP 10147528 A NO 971219 A US 5753681 A	29-07-1999 25-09-1997 18-09-1997 21-01-1998 15-10-1997 28-09-1998 02-06-1998 19-09-1997 19-05-1998
WO 9405659	A	17-03-1994	AT 182147 T AU 674880 B AU 4973093 A CA 2143849 A CN 1101911 A, B CN 1183275 A CN 1183413 A CN 1183276 A CZ 9500565 A DE 69325658 D EP 0658161 A EP 0960883 A ES 2133410 T FI 951004 A FI 982413 A HU 72639 A IL 106904 A JP 11147885 A JP 2828777 B JP 8501095 T MX 9305397 A NO 950852 A	15-07-1999 16-01-1997 29-03-1994 17-03-1994 26-04-1995 03-06-1998 03-06-1998 03-06-1998 15-11-1995 19-08-1999 21-06-1995 01-12-1999 16-09-1999 03-03-1995 06-11-1998 28-05-1996 30-09-1997 02-06-1999 25-11-1998 06-02-1996 31-01-1995 03-03-1995

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Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9405659 A		NO 974646 A	03-03-1995
		NZ 255505 A	22-08-1997
		PL 307812 A	26-06-1995
		SG 48302 A	17-04-1998
		SI 9300452 A	30-06-1994
		SK 27795 A	09-08-1995
		US 5741803 A	21-04-1998
		US 5910592 A	08-06-1999
		ZA 9306509 A	16-06-1994
EP 0306228 A	08-03-1989	AU 2173888 A	09-03-1989
		CA 1328452 A	12-04-1994
		CA 1339902 A	09-06-1998
		DK 490288 A	05-03-1989
		EP 0842925 A	20-05-1998
		JP 10194970 A	28-07-1998
		JP 10194971 A	28-07-1998
		JP 1131169 A	24-05-1989
		JP 2614497 B	28-05-1997
		JP 2817840 B	30-10-1998
		JP 9183771 A	15-07-1997
		JP 2837139 B	14-12-1998
		JP 9183726 A	15-07-1997
		JP 9183772 A	15-07-1997
		NZ 226027 A	26-03-1992
		PT 88410 A, B	31-07-1989
		SG 59988 A	22-02-1999
		US 5646169 A	08-07-1997
		US 5002953 A	26-03-1991
		US 5521201 A	28-05-1996
		US 5232925 A	03-08-1993
		US 5194443 A	16-03-1993
		US 5756525 A	26-05-1998
		US 5260445 A	09-11-1993